REMARKS

Claims 1-3, 5-8, 10-14, 16 and 17 are pending in the case. The Examiner's reconsideration of the rejections is respectfully requested in view of the amendments and the remarks.

Request For Reconsideration of the Finality of the Office Action

The present Office Action was made final, wherein the Examiner stated that Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. However, Applicants believe that a Final Office Action is premature in that Claim 7 was rejected under 35 U.S.C. 103(a) based on newly cited art, wherein this claims were not previously amended. A second or any subsequent action on the merits in any application should not be made final if it includes a rejection, on newly cited art, other than information submitted in an information disclosure statement of any claim not amended by applicant in spite of the fact that other claims may have been amended to require newly cited art. Claim 7 has not been amended and was rejected in view of newly cited art, Cham et al., not submitted in an information disclosure statement. Therefore, Applicants respectfully request that the Examiner withdraw the finality of the present Office Action.

Response to Final Office Action

Claims 7-11 have been rejected under 35 USC 101, as being directed to non-statutory subject matter. The Examiner stated essentially that the claims as recited do not achieve any concrete and tangible result.

Claim 7 claims, *inter alia*, "determining a plurality of initial estimates of motion; tracking a mode of a density function across scales given multiple source models, wherein each source model corresponds to a set of initial estimates of motion; and determining a location of a most significant mode of the density function from a fusion of the initial estimates, wherein the most significant mode is output as a motion estimate from a sequence of images."

The "a motion estimate from a sequence of images" of Claim 7 is believed to be a useful, concrete and tangible result, for example, in the field of multiple motion estimation. That is, the claimed process applies a most significant mode principle to a plurality of initial estimates of motion to produce a useful, concrete, tangible result without pre-empting other uses of the mathematical principle.

For the reasons given above, Claim 7 is believed to be directed to statutory subject matter and therefore satisfy 35 USC 101. Claims 8-11 depend from Claim 7. The dependent claims are believed to be allowable for at least the reasons given for Claim 7.

Reconsideration of the rejection is respectfully requested.

Claims 1-17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Hamza et al. (USPN 7,099,796) in view of Cham et al. (USPN 6,314,204). The Examiner stated essentially that the combined teachings of Hamza and Cham teach or suggest all the limitations of Claims 1-17.

Claims 1, 7 and 12 are the pending independent claims.

Claims 1 and 12 claim, *inter alia*, "determining a density based fusion estimate as a most significant mode of a density function determined from the plurality of initial estimates of motion of an object, wherein the most significant mode corresponds to a determined motion estimate of the object, wherein the most significant mode is determined by mode tracking across scales, the mode tracking beginning with a unique mode defined at a relatively large scale and tracking that mode toward a relatively smaller scale." Claim 7 claims, *inter alia*, "determining a location of a most significant mode of the density function from a fusion of the initial estimates, wherein the most significant mode is output as a motion estimate from a sequence of images, wherein the most significant mode is determined by mode tracking across scales starting from a unique mode defined at a large scale and tracking that mode toward smaller scales."

Hamza teaches a method and system for aggregating quantitative data and qualitative information from a plurality of sensors (see Abstract). Hamza does not teach, that a "most significant mode is determined by mode tracking across scales, the mode tracking beginning with a unique mode defined at a relatively large scale and tracking that mode toward a relatively smaller scale" as claimed in Claims 1 and 12, and essentially as claimed in Claim 7. Hamza teaches that probability distributions are preferably segmented into sub-ranges or classes resulting in a plurality of uncertainty boundaries for an estimated position of an objection (see col. 4, lines 13-17). The segmented probability distribution of Hamza is not analogous to a tracking across scales as claimed. For example, Hamza's method applies a probability measure weight to each segment (see col. 3, lines 55-60 and FIG. 3). Such a segmented probability distribution does not include a notion of different sized scales, essentially as claimed in Claims 1, 7 and 12. Therefore, Hamza fails to teach or suggest all the limitations of Claims 1, 7 and 12.

Cham teaches "Piecewise Gaussian functions in the multidimensional state space are fit to the modes of the likelihood function" (see col. 9, lines 55-59) and "the probability of the 'best' mode remains large in the subsequent data frames" (see col. 14, lines 20-25). Cham does not teach, that a "most significant mode is determined by mode tracking across scales, the mode tracking beginning with a unique mode defined at a relatively large scale and tracking that mode toward a relatively smaller scale" as claimed in Claims 1 and 12, and essentially as claimed in Claim 7. Cham teaches a probability distribution across an image (see for example, FIG 5B and FIG 20. Nowhere does Cham teach that a distribution is determined at more than one scale. All probability distributions are determined across an entire image. Therefore, Cham fails to cure the deficiencies of Hamza.

The combined teachings of Hamza and Cham teach a probability distributions across an entire image. The combined teachings of Hamza and Cham fail to teach or suggest "most significant mode is determined by mode tracking across scales, the mode tracking beginning with a unique mode defined at a relatively large scale and tracking that mode toward a relatively smaller scale" as claimed in Claims 1 and 12, and essentially as claimed in Claim 7.

Claims 2, 3, 5 and 6 depends from Claim 1. Claims 8, 10 and 11 depend from Claim 7. Claims 13, 14, 16 and 17 depend from Claim 12. The dependent claims are believed to be allowable for at least the reasons given for Claims 1, 7 and 12, respectively. Claims 4, 9 and 15 have been cancelled. The Examiner's reconsideration of the rejection is respectfully requested.

For the forgoing reasons, the present application, including Claims 1-3, 5-8, 10-14, 16 and 17, is believed to be in condition for allowance. The Examiner's early and favorable action is respectfully urged.

Respectfully Submitted,

Date: June 14, 2007

Donald B. Paschburg

Donald B. Paschburg
Reg. No. 33,753
Attorney for Applicants

Mailing Address:
SIEMENS CORPORATION
Intellectual Property Department
5th Floor
170 Wood Avenue South
Iselin, New Jersey 08830
(732) 321-3191
(732) 321-3030 (FAX)